of the Tree , hath contracted a petrfied Cruſt , about the thickneſs of a *ſhilling*, all over the woody part within the Bark; the Marks of the Axe alſo remaining very conſpicuous, with this petrified cruſt upon it. By what means it ſhould thus happen , cannot well be conceived , in regard there is no water neer it ; the part, above the ground and out of the weather ; the Tree yet growing : unleſs being cut at ſome ſeaſon, when the ſap was flowing , the owſing of the ſap might become petrified by the Air , and the Tree grow rotten and hollow inward ſince that time ; which how long ſince, is not known.

A piece of that part cut , was preſented , together with this Account , to the ſaid *Society*, for their *Repoſitory*.

Articles of Inquiries touching Mines.

What the Honourable *Robert Boyle* gave the Reader cauſe to hope for, in *Numb.* 11. when he was pleaſed to impart thoſe *General* Heads for a Natural Hiſtory of a Country, *there* publiſh'd; He is not un-mindful to perform , by enlarging them as occaſion ſerves,with *Particular* and *Subordinate* Inquiries. Here he gratifies the Curious with a conſiderable Set of Inquiries about *Mines* : which though unfiniſh'd, yet the *Publiſher*, was inſtant to obtain their preſent Publication,to the end, that he might the more conveniently recommend them to ſeveral Forreigners of his Acquaintance ; now ready to return to their ſeveral Countryes, which he underſtands to abound in Mines ; and from the Curious Inhabitants whereof, he expects to receive a good Accompt upon ſome at leaſt of theſe Inquiries ; which alſo by ſeveral of them have been earneſtly deſired, as Inſtructions , to direct them , what Particulars to inquire after upon this Subject.

Theſe Quæries are reduced by the *Author* to ſix Heads :

The *firſt*, The neighbouring Country about the Mines.

The *ſecond*, The Soyl where the Mines are.

The *third*, The Signs of Mines.

The *fourth*, The Structure and other particulars belonging to the Mines themſelves.

The *fifth*, The Nature and Circumſtances of the Ore.

The *ſixth*, the Reduction of the Ore into Metal.

QUÆRIES
About the firſt Title.

1. Whether the Country be Mountainous, Plain, or diſtinguiſh'd with Vales? And in caſe it be mountainous, what kind of Hills they are; whether high, or low, or indifferently elevated? Whether almoſt equal or very un-equal in height? Whether fruitful or barren; cold or temperate; rocky or not; hollow or ſolid? Whether they run in ridges, or ſeem confuſedly placed; and, if the former, what way the ridges run, North and South, *&c.* And whether they run any thing paralkel to one another?

2. Whether the Country be barren or fruitful? And, if any way fruitful, what it produces, and what it moſt abounds with?

3. What Cattle it nouriſhes, and whether they have any ſuch thing peculiar in point of bigneſs, colour, ſhape, longævity, fitneſs or unfitneſs to make good meat, *&c.* as may be rather adſcribed to the peculiar nature of the place, than to the barrenneſs of the Soyl, or other manifeſt cauſes?

4. Whether the Natives, and other Inhabitants, live longer or ſhorter than ordinary? Whether they live more or leſs healthy? Whether they be ſubject to any *Epidemical* Diſeaſes, that may very probably be imputed to the Mines; and what theſe Diſeaſes are; and what Remedies are found ſucceſsful?

5. Whether the Country be, or be not furniſh'd with Rivers, Brooks, Springs, and other Waters; and how theſe waters are conditioned?

6. Whether the Air be dry or moiſt; hot or cold; clear or foggy; thick or thin; heavy or light; and eſpecially, whether the Weather be more or leſs variable than ordinarily; or whether it be ſubject to great and ſudden changes, that may probably be imputed to the Mineral and Subterraneous Steams; and what they are?

About the ſecond Title.

7. Whether the *Soyle* that is neer the Surface of the Earth, be Stony; and, if it be, what kind of Stones it abounds with? Whether it be Clayie, Marley, Chalkye, *&c.* And, if it be of ſeveral kinds, how many they are; and by what properties they are diſtinguiſh'd?

About the third Title.

8. By what *Signs* they know or gueſs, that there is a Mine in ſuch a place?

9. Theſe Signs are *either* upon the Surface of the Earth, *or beneath* it.

To the *former* belong theſe *Quæries.*

10. Whether the Ground be made barren by Metalline or Mineral Effluviums?

11. Whether it be obſerved, that Trees and other greater Plants ſeem to have their tops burnt, or other leaves or outſides diſcoloured? or whether there be any Plants, that do affect to grow over ſuch Mines; and whether it have been tryed, that other Plants, that would proſper in the adjacent places, will not be made to grow or thrive there?

12. Whether the Stones and Pebles, that are waſh'd by the Brooks, Springs, or other Waters, have any colour'd ſubſtance left upon them; and if they have, of what colour, weight, *&c.* theſe adherences are?

13. Whether the Waters of the place propoſed, do by their taſt, ſmell, ponderouſneſs, *&c.* diſcloſe themſelves to contain Minerals? And, if they do, what Minerals they or their reſidences, when they are evapourated away, do appear to abound with, or to participate of?

14. Whether *Snow* will not lye, or *Froſt* continue ſo long, or *Dew* be generated or ſtay upon the ground in the place propoſed, as on other neighbouring grounds?

15. Whether the *Dew* that falls on that ground, will diſcolour white Linnen or Woollen-Cloths, ſpred over night on the

ſurface of the ground, and employed to collect the Dew? And whether the *Rain* that falls there, and may be ſuppoſed to come thither from elſewhere, will diſcolour ſuch Clothes, or afford any reſidence of a Mineral Nature?

16. Whether the Place be more than ordinarily ſubject to Thunder and Lightning, and to ſudden Storms or Earthquakes; as likewiſe to Nocturnal Lights and fiery Meteors.

17. Whether Miſts uſe to riſe from Grounds ſtored with Minerals? What is obſervable in them, and what Minerals they ſignify, and may be ſuppoſed to be produced by?

18. Whether the *Virgula Divinatoria* be uſed to find out the Veins of propoſed Mines; and, if it be, with what ſucceſs?

19. What other Signs above ground afford probability of Mines, or Direction for following a Vein over Hills, Valleys, Lakes, Rivers, *&c.*

The *ſecond* ſort of *Signs* belonging to theſe *Quæries*, are ſuch as follow.

20. Whether there be any Clayes, Marles, or other Mineral Earths, yellow or liquid matters, that uſually give notice of the Ore? And if there be more than one, how and at what depths they are wont to lye reſpectively? Of what thickneſs and conſiſtence they are; and in what Order the Diggers meet with them?

21. Whether there be any Stones or *Marchaſites* to be found neer, or not very far from the ſurface of the ground, by which one may have ground to expect a Mine? As is often obſerved in the Tin-Mines of *Cornwall*, over which ſuch kind of Stones are divers times found lying above ground?

22. Whether all Stones of that kind do equally ſignify that Mine? And, if not, how the ſignificant Stones are to be known, as by Colour, Bigneſs, Shape, Weight, Depth under ground, *&c.*

23. Whether there be any Earths of peculiar kinds, as to Colour, Conſiſtence, *&c.* that indicate a Mine beneath or near them; and, if there be, what they are, and what is their conſecution, if they have any?

24. Whether Heat or Damps give any aſſurance or a probability of finding a Mine?

25. Whether Water of any kind, met with in Digging, eſpecially at this or that depth, do betoken a Mine?

26. Whether there be any Signs of the neerneſs of the Mine, and what they are?

27. Whether there be any Signs of ones having miſs'd the Mine, either by being paſt above, or beneath, or having left it on either hand; and what they are?

28. Whether there be any Signs not only of the diſtinct and determinate kind of Metals or Minerals; but of the Plenty and Goodneſs of the Vein; and what they are?

29. Whether there be any Signs of the depth of the Vein beneath the ſurface of the Earth; and what they are?

30. Whether there be any proper or peculiar Signs, that ſhow it to be hopeleſs, or at leaſt unlikely, to find a Vein in the place where it is digg'd for; and what thoſe are?

About the fourth Title.

31. What is the depth of the Shaft or Groove (which though named in the *ſingular* Number, the Queſtions about it are *generally* applicable) till you come at the Vein or Ore?

32. Whether the Vein run or lye Horizontal, or dippe? And if it dippe, what *inclination* it hath, how deep the loweſt part lies; and conſequently how much deeper than the uppermoſt? As alſo, what it's Flexures, if it have any, are? And whether it runs directly *North* or *South*, *Eaſt* or *Weſt*; or ſeem rather to have a Caſual tendency, than any determinate one by Nature? and how far it reaches in all?

33. What is the Wideneſs of the Groove at the Top, and elſewhere? Whether the Groove be perpendicular or crooked; and if crooked, after what manner, and with what diſtance it winds?

34. How the Groove is ſupported? What are the kinds, length, bigneſs, and way of placing the Timber, Poles, &c. that are employed to ſupport it? And how long the Wood will laſt, without being ſpoyled with the ſubterraneous fumes and waters? and what wood laſts longeſt?

75. What Air-ſhaft belongs to the Mine? Whether it be *ſingle*, or more than One? Of what breadth the Air-ſhaft is at the Orifice? Whether it be convenient enough, or not? How neer it is placed to the Groove; and in what poſition? And if there be *ſeveral* Air-ſhafts, what their Diſtances and ſcituation are in reference to the Groove, and to each other? Or how Air is ſupplied, if there be no Air-ſhafts?

36. Whether they meet with any Waters in the Mine? And, if they do, how copious they are; at what depths they occur; how they are qualified; and what way they Spring, *&c.*

37. Whether they are conſtant or temporary? whether they increaſe or diminiſh notably in Summer or Winter, or at any other time of the year; and if they do, at what ſeaſon that is; how long it is wont to laſt; and the proportions of Increaſe and Decreaſe?

38. What Expedients and Engines are employed to free the Mines from Water? The materials, the parts, the bigneſs, the ſhapes, the coaptation; and, in ſhort, the whole ſtructure, number, and way of applying the Inſtruments, that are made uſe off to free the Mines from Water?

39. What are the Conditions, Number, *&c.* of the *Adits*?

40. VVhether the Mine be troubled with *Damps*, and of what kind they are? whether they come often or ſeldom at any ſet time, or altogether irregularly? what Signs fore-run them? what miſchief they do? what remedies are the moſt ſucceſsfully imployed againſt them, aſwell in reference to the Cleering of the Mine, as to the Preſervation and Recovery of the VVorkmen?

41. VVhat Methods the Mine-men uſe in following the Vein, and tracing their paſſages under ground (which they call *Plumming* and *Dyalling*) according to the ſeveral exigencies? And whether they employ the Inſtruments, made with the help of the Load-ſtone, the ſame way that is uſual; and if not, wherein they differ in the uſe of the ſame Inſtruments; or what Inſtruments they ſubſtitute in their place?

42. VVhat ways they take to ſecure themſelves from the uncertainty, incident to the guidance of *Magnetick* Needles from the *Iron-Stone* or Ore, that they may meet with under ground?

(of which yet perhaps there is not ſo great danger, as one may imagine; as far as I could find by a Trial, I purpoſely made in a Groove, where I was ſure, there wanted not Iron-Ore.) And what other wayes may be uſed to direct Miners without the help of a Load-ſtone?

43. How the Miners deal with the Rocks and Sparrs, they often meet with, before they come at the Ore? Whether they uſe Fire to ſoften, calcine, or crack them? How they employ it, and with what meaſure of ſucceſs?

44. What wayes and cautions they uſe, to free the Mine and ſecure the Work-men from the inconveniencies and danger accruing from the uſe of much fire in it?

45. What Inſtruments they uſe to break the Rock *&c*? And how thoſe Inſtruments are conducive; and how long they laſt?

46. How the Mine-men work; whether naked or cloathed? And what Lights they uſe to work by; what materials they are made of, what meaſure of light they give; how long they laſt; and by what wayes they are kept burning in that thick and foggy air?

47. How Veins are follow'd, loſt, and recover'd? And how ſeveral Miners work on the ſame Vein? And what is the beſt way of getting all the Ore in a Vein, and moſt conveniently?

48. How they convey out their Ore, and other things, that are to be carried out of the Mine? Whether they do it in Baskets drawn up by Ropes, or upon Mens backs; and if this laſt-named way; what kind of Veſſels they uſe for matter, ſhape, and capacity? And whether the Work-men deliver them one to another; or the ſame Work-men carry them all the way? And whether the Diggers deſcend and aſcend by Ladders of Wood, or of Ropes, *&c.*

About the Fifth Title.

49. Whether the Ore runs in a Vein; or lie diſpers'd in ſcatter'd pieces; or be divided partly into a Vein, and partly into looſe maſſes; or like a Wall between two Rocks, as it were in a Cleft; or be interſpers'd in the firm Rock, like ſpeckled Marble? Or be found in *Grains* like *Sand* or *Gravel*; as ſtore

of excellent *Tin* is ſaid to be found in ſome parts of *Cornwall* at the Sides and in the Channels of running Waters, which they call......; or whether the Ore be of a ſofter conſiſtence, like *Earth* or *Lome*, as there is Lead-ore in *Ireland* holding ſtore of Silver, and Iron-ore in the North parts of *Scotland* and elſewhere? And what is obſervable in it as to Weight, Colour, Mixture, *&c*?

50. Whether any part of the Metal be found in the Mine perfect and complete? (As I have had preſented me good valluable *Copper*, and pieces of perfect *Lead*, that were taken up, the one at *Jamaica*, and the other by an acquaintance of mine, that took them out of the ground himſelf in *New England*.)

51. Whether the Mine affords any parcels of Metal, that ſeem to grow like *Plants* (as I have ſometimes ſeen Silver growing, as it ſeemed, out of Stone, or *Sparre* almoſt like blades of Graſs; as alſo great Grains of a Metal, which appear'd to me, and which thoſe, that tryed ſome of it, affirmed to be Gold, abounding in a ſtony lump, that ſeem'd to conſiſt chiefly of a peculiar kind of *Sparre*.)

52. VVhether the Vein lie near, or much beneath the ſurface of the Earth, and at what depth?

53. VVhether the Vein have or have not any particular Concomitants, or Coats (if I may ſo call them;) and, if any, what they are, and in what order they lie? (As the Veins of *Lead-ore*, with us, have frequently annnext to them a Subſtance call'd *Sparre*, and next to that another, call'd *Caulk*.

54. VVhether (beſides theſe Coats) the Vein have belonging to it any other *Heterogeneous* ſubſtance? (As in *Tin-mines* we often find that yellow ſubſtance, which they call *Mundick*.)

55. VVhat are the principal Qualities of theſe Extraneous ſubſtances? (As that *Sparre* is white, but tranſparent, almoſt like courſe Cryſtall, heavy, britle, eaſily diviſible into flakes, *&c.* *Caulk* is of a different texture, white, opacous, and like a Stone, but much more ponderous. *Mundick* I have had of a fine golden colour; but, though it be affirm'd to hold no Metal; yet I found it in weight, and otherwiſe, to differ from *Marchaſites*; and the Mine-men think it of a poiſonous nature.)

56. Whe-

56. Whether the Vein be incloſed every way in its Coats; or whether it only lye between them?

57. Whether the Vein be every way of an uniform breadth, and thickneſs; and, if it be, what theſe Dimenſions are; and, if not, in what places it varies, and in what meaſures? (The like Queſtions are to be made concerning the *ſparre*, *Caulk*, and other Teguments or mixtures of the Ore?)

58. VVhether the Vein be un-interrupted, or in ſome places broken off; and whether it be abruptly, or not; and whether it be by Vales, Brooks, Gullets, *&c.*?

59. How wide the Interruptions are? what Signs, whereby to find the Vein again? whether the ulteriour part or diviſion of the Vein be of the ſame Nature, and hold on in the ſame Courſe, as to its tendency upwards or downwards, or Horizontally, Norward, Southward, *&c.* with the Vein, from which it is cut off?

60. VVhether, in caſe the laſt end of the Vein be found, it terminate abruptly, or elſe end in ſome peculiar kind of Rock or Earth, which does, as it were, cloſe or Seal it up, without leaving any crack or cranny, or otherwiſe? And whether the terminating part of the Vein tend upwards, downwards, or neither? And whether in the places, where the Vein is interrupted, there be any peculiar Stone or Earth, that does, as it were, ſeal up the Extremity of it?

61. Whether it be obſerved, that the Ore in Tract of time may be brought to afford any Silver or Gold, which it doth not afford, or more than it would afford, if it were not ſo ripe? And whether it have been found, that the Metalline part of the Vein grows ſo, that ſome part of the Mine will afford Ore or Metal in tract of time, that did not ſo before? And whether to this Maturation of the Mine, the being expoſed to the free Air be neceſſary; or, whether at leaſt it conduce to the Acceleration of it; or otherwiſe?

62. Whether all the Ore, contained in the Mine, be of the ſelf-ſame nature and goodneſs; and, if not, what are the differing kinds; and how to be diſcriminated and eſtimated?

63. VVhat is the fineneſs and goodneſs of the Ore, by which the Mine is wont to be eſtimated? And what are the marks and

characters, that diſtinguiſh one ſort from another?

64. VVhat proportion of Metal it affords? (As in our *Iron-mines* 'tis obſerved, that about three Tuns of Iron-ſtone will afford one Tun of Metal: And I have had *Lead-Ore*, which an Ingenious man, to whom I recommended ſuch Tryals, affirm'd to me to afford three parts in four of good Lead.)

65. VVhether the Ore be pure in its kind from other Metals, and, if not, of what Metals it participates; and in what proportion? Which is eſpecially to be inquired into, in caſe the Mine be of a *baſe* metal, that holds a *noble* metal: (As I have known it obſerv'd, that *Lead-Ore*, that is poor in its own metal, affords more Silver, than other; and I remember, that the *Ore* lately mention'd, being rich in Lead, ſcarce afforded us upon the *Cuppel*, an Atome of Silver. And *Matthefius* informs us, that a little Gold is not unfrequently found in *Iron-Ore*. And I have by me ſome Gold, that never endur'd the Fire, taken out of a Lump of Tin-Ore.)

About the ſixth Title.

66. VVhat are the mechanick and prævious Operations, as Beating, Grinding, VVaſhing, *&c.* that are uſed to ſeparate the Ore from the Heterogeneous Bodies, and prepare it for the Fire? Or whether the Ore requires no ſuch preparation? (as it often happens in Lead, and ſometimes in Iron, *&c.*)

67. VVhether *Mercury* be made uſe off, to extract the nobler from the baſer metals? (as is their practice in *Peru*, and other parts of the *Weſt-Indies.*)

68. VVhether the leaving the Ore expos'd to the open Air and Rain for a good while, be uſed as a Præparative? (as I have ſeen done in *Iron-ſtone.*)

69. VVhether the Burning and Beating of the Ore be uſed to prepare it for the Furnace? (as is practiſed in *Iron*, and almoſt always in *Copper:*) And, in caſe they uſe it more than once, how often they do it; (for, *Copper-Ore* is in ſome places waſhed 8. or 10. times, and in others, 12. or 14.) and with what circumſtances; as, how long the Ignition laſts at a time, whether the Ore be ſuffer'd to cool of it ſelf, or be quench'd? whether it be waſhed betwixt each Ignition?

70. VVhat Flux-powders, and other ways they have to try

and examine the goodneſs of the Ore in ſmall quantities?

71. VVhether, when they work in *great*, they uſe to melt the Ore with any Flux or Additaments, or only by the force of the Fire, or in any way between both? (As throwing in of Charcoals when they melt Iron-ſtone does not only ſerve to feed the Fire, but perhaps by the *Alchaly* of its Aſhes to promote the fuſion: ſo Lime-ſtone, *&c.*)

72. What kind of Furnaces they uſe, to melt the Ore in? Whether they be all of one ſort and bigneſs, or of differing?

73. What are, the Situation, Materials, Dimenſions, Shape, Bigneſs, and in ſhort what is the whole ſtructure and Contrivance of the Furnace? If there be any thing peculiar and remarkable? VVhat Tools are uſed in Smelting, their Figures, uſe, *&c.* And the whole manner of working?

74. VVhat kinds of Fewel, and what quantities of it, are wont to be employed in the Furnace, within the compaſs of a day, or week? How much is put in at a time? How often it is renewed? And how much Ore in a determinate time, as a week or a day, is wont to be reduced to Metal?

75. In caſe an Additament be employed, what that is, and in what proportion it is added? VVhether it be mingled with the Ore, before that be put into the Fire, or caſt in afterwards; and, if ſo, at what time, *&c*?

78. VVhether the Ore be melted by a VVind, excited by the Fire it ſelf; as in VVind-ovens? Ore by the courſe of VVaters? Or acuated by the blaſt of Bellows; and, if ſo, whether theſe Bellows be mov'd by a VVheel, turn'd by VVater running under it, or falling on it? And what are, the Dimenſions, Situation, *&c.* of the Bellows?

79. VVhat contrivance they have, to let or take out the Metal, that is in fuſion; and caſt it into Barrs, Sows, Pigs. *&c?*

80. VVhat Clay, Sand, or Mould they let it run or pour it through? And after what manner they refrigerate it?

81. VVhether or no they do, either to facilitate the fuſion, or to obtain the more or better Metal, mingle differing ſorts or degrees of Ore of the ſame metal? (As in ſome places 'tis uſual, to mingle poor and rich Ore; and at *Mendip* they mix two or more of thoſe differing kinds of *Lead-ore* that they call *Frim-ore*, *Steel-ore*, *Potern-ore*, &c.)

82. Whe-

82. VVhether or no, having once brought the Ore to fuſion, they melt all the Metal it ſelf, to have it the more pure? And, if they do, with what circumſtances they make the fuſion?

83. VVhether they have any Signs, whereby to know whether the Fuſion have been well or ill perform'd; and the Metal have obtain'd the perfection, to be expected from ſuch Ore, melted in ſuch a Furnace?

84. VVhether they obſerve any great difference in the goodneſs of the Metal, that firſt melts, from that of the reſt of the Metal which comes afterwards in the ſame or another operation? And whether the Rule holds conſtantly? (For, though they obſerve in *Tin-Mines*, the beſt Metal comes firſt, yet in the works of an Induſtrious friend of mine, he informs me, that the beſt Metal comes laſt.)

85. Whether the produced Metal be all of the ſame goodneſs? And if it be, how good it is in reference to the Metal of other Mines, or other parts of the ſame Mine or Vein? And if it be not, what differences are obſerv'd between the produced portions of Metal; and what diſparity that amounts to in the price?

86. What are the Wayes of diſtinguiſhing them, and eſtimating their goodneſs?

87. Whether they do any thing to the Metal, after it is once brought to Fuſion, and, if need be, melt it over again, to give it a melioration? (As when *Iron* is refined, and turn'd into Steel;) And what diſtinct Furnaces, and peculiar Ways of ordering the Metals are employ'd to effect this improvement? With a full deſcription of them and the Tools in all Circumſtances, obſerv'd in the refining of Metals.

88. Whether in thoſe places, where the Metal is melted, there be not elevated ſome Corpuſcles, that ſtick to the upper parts of the Furnance, or Building? And, if there be, whether they be barely fuliginous and recrementitious exhalations, or, at leaſt in part, Metallin Flowers? (As in the *Corniſh* Tin-mines, after ſome years they uſually deſtroy the thatch'd Houſes, where the Ore hath been melted, to get the ſtuff, that adhears to the inſides of the Roofs, out of which they melt ſtore of excellent Tin.)

89. Whether the Metal, being brought to fuſion, affords

any Recrements? (As *Iron-ſtone* affords ſtore of a dark Glaſs or Slagg) And, if it do, what thoſe Recrements are? How they are ſeparated from the Metal; and to what Uſes they are employed?

90. Whether, after the Metal has been once melted, the remaining part of the Ore being expoſed to the Air, will in tract of time be impregnated, or ripen'd, ſo as to afford more Metal? (For, this is affirm'd to me of the *Corniſh* Tin-Ore; and what remained after the fuſion of *Iron-ore* in the *Foreſt of Dean*, is ſo rich in Metal, that a Tenant of mine in *Ireland*, though he had on the Land, he held from me, an Iron-Mine, found it leſs profit to work it, than to ſend croſs the Sea to the *Foreſt of Dean* for this already us'd Ore, which having lain for ſome ages, ſince it was thrown aſide in great heaps expos'd to the Air, he affirm'd to yield as well great great ſtore of Iron, as very good: though I ſomewhat doubt, whether this be *totally* to be aſcribed to the Aire, and length of time; or to the leaving of Metal in the Slaggs in old times, before great Furnaces were in uſe.)

Promiſcuous Inquiries about Mines, from the ſame Author.

1. Whether the Territorie, that bears the Mine, abounds with no other Kind of Mineral in ſome diſtinct part of it? (As in *Kent* near *Tunbridge*, one part of the Country which is Hilly, abounds all along with *Iron-Mines*; the other, which is alſo Hilly, and divided from it but by a ſmall Valley, abounds exceedingly (as the Diggers and Inhabitants told me upon the place) in *Quarry's*, which the Metallin-Country wants, but is quite deſtitute of Iron-ſtone. And ſo at *Mendip*, in one part of the Hill, I ſaw ſtore of *Lead-Mines*, containing ſeveral Kinds of Ore of that Metal; another part of the Hill I found to be full of *Cole-pits*, which had ſome *Marchaſites*, but no Metal; and in another place, *Iron-ore*, and mixt with Ores, which yet they did not think fit to work.)

2. Whether the Air appear to be really cold in Summer,

and hot in Winter at the bottom of the Mines, by ſurer proofs than the Teſtimony of our Touch?

3. Whether they ever meet with places and Stones actually very hot, as *Mattheſius* relates? And whether that ſpring not from the quenching of *Marchaſites*?

4. Whether they find in the Mines any Mineral Gelly, ſuch as the *German* Naturaliſts call *Ghur*? And whether in proceſs of time it will harden into a metal, or Mineral Concretion?

5. What are the Laws, Conſtitutions, and Cuſtoms, *Oeconomical*, *Political*, *Ethical*, that are receiv'd and practis'd among the Mine-men?

6. Whether the Diggers do ever really meet with any ſubterraneous *Dæmons*; and if they do, in what ſhape and manner they appear; what they portend; and what they do, *&c.*?

7. Whether they obſerve in the Trees and other Plants, growing over or neer the Mine, not only, (as hath been already intimated) that the Leaves are any whit gilded or ſilver'd by the aſcending Mineral Exhalations, but alſo, that the Trees or other Plants are more ſolid and ponderous? And if they have not alſo ſome diſcernable Metalline or Mineral Concretes, to be met with in the ſmall Cavities and Pores of their ſubſtance?

8. Whether there be not Springs, and alſo greater Streams of Water neer the Mine, that riſe, and run their whole courſe under ground, without ever appearing above it?

9. Whether the Subterraneous Springs do riſe with any wind or determinate change of weather?

10. How much heavier the *Atmoſphere* is at the bottom of the Mine, than at the top? And whether Damps conſiderably increaſe the weight of it?

11. Whether they find any ſtrange ſubſtances in the Mines, as Veſſels, Anchors, Fiſhes inclos'd in Sparr or Metal, *&c.*?